

Appl. No. 09/663,594
Amendment and/or Response
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Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A network comprising:
 - a plurality of network nodes, wherein ~~at least part of the network nodes are directly intercoupled via at least one star node, and~~
a star node that is configured to be coupled to the plurality of network nodes to facilitate communication among the plurality of network nodes,
 - wherein:
 - the star node ~~contains~~ includes a plurality of star interfaces which are, each star interface of the plurality of star interfaces being assigned to at least one network node of the plurality of network nodes, and
 - each star interface is configured such that, in dependence on detection of a pilot signal generated by the at least one from an assigned network node, the network node remote from the star node and the star interfaces, one the star interface that is assigned to the assigned network node autonomously controls the conveyance of a message from the assigned network node to the other star interfaces and therefrom to the other network nodes, or from another star interface to at least one of the assigned network nodes.

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2. (Currently amended) A network as claimed in claim 1, wherein

~~each network node in the network is assigned a certain periodically recurrent time section for the transmission of its messages, and~~

~~a each network node comprises~~includes a pilot signal generator which ~~generates that is configured to generate~~ a pilot signal which ~~denotes either the whole assigned time section or the beginning and end of that identifies the time section to the assigned star interface.~~

3. (Currently amended) A network as claimed in claim 1, wherein

~~each star interface comprises~~includes a first and second switch element and a pilot signal detector,

~~the first switch element in activated state is provided for allowing~~is configured to allow a message to pass from the assigned network node to the other star interfaces and

~~the second switch element in activated state is provided for allowing~~is configured to allow a message to pass from the other star interfaces to the assigned network node and

~~the pilot signal detector is configured to selectively control the first and second switch elements based upon detection of a pilot signal from the assigned network node is provided for activating a first switch element and deactivating a second switch element or deactivating the first switch element and activating the second switch element in dependence on a pilot signal from the assigned network node.~~

4. (Previously Presented) A network as claimed in claim 3, wherein

the first and second switch elements are each a switchable amplifier.

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5. (Currently amended) A network as claimed in claim 1, wherein

a each star interface is configured to generate a release signal upon receipt of a pilot signal from the assigned network node, and

the star node is configured to propagate the release signal to the plurality of star interfaces provided for generating a release signal when the assigned network node denotes a message transmission by a pilot signal, the lines conveying the release signal of each star interface are coupled via an OR combination and the OR combination transfers the release signal to all the star interfaces of the star node.

6. (Currently amended) A network as claimed in claim 5, wherein

the star node is configured to propagate the release signal via OR combination is an OR gate or a wired OR combination of the release signal from each star interface.

7. (Currently amended) A network as claimed in claim 2, wherein

at least one network node is assigned to more than one a plurality of star interface, of which only one is provided for transferring star interface is enabled to communicate messages in dependence on the a state of the assigned network node.

8. (Currently amended) A network as claimed in claim 7, wherein

the at least one network node contains includes:

at least two pilot signal generators, and

at least two multiplexers for combining the pilot signal generated by the assigned pilot signal generator with a message, and

a control unit decides over which that is configured to select a line connection and over which an assigned star interface for transmitting the message combined with a the pilot signal is transmitted.

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9. (Currently amended) A network as claimed in claim 8, wherein
the at least one network node includes one or more pilot signal detectors, and
the control unit is configured to test communications over the network based
on detection of received pilot signals at each of the more than one star interfaces
provided for testing the operability of the star interfaces, of the line connections, and
of a circuit component, in the network node, which switch component forms the
message with the pilot signal and receives such a message, during the reception of
the message the control unit checks the presence of the pilot signal on the various
line connections by evaluating pilot signal detectors, and, during the transmission of
the message, the presence of the pilot signal on all the line connections, except for
the line connection that transmits the message that has been transmitted.

10. (Currently amended) A network node in a network ~~comprising further that~~
includes a plurality of other network nodes, comprising:
a pilot generator that is configured to generate a pilot signal that serves to
identify a time frame within which a message is to be transmitted from the network
node,
a multiplexer, operably coupled to the pilot generator, that is configured to
multiplex the pilot signal and the message to produce an output signal, and
a transmitter, operably coupled to the multiplexer, that is configured to transmit
the output signal,

wherein

the network node is configured to be coupled to the network via a star node
that communicates the output signal to each of the other network nodes based on a
detection of the pilot signal~~provided for coupling to further network nodes via at least~~
~~one star node and the network node is remote from the at least one star node and~~
~~provided for indicating a transmission of a message to a star interface of the star~~
~~node together with a pilot signal.~~

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11. (Currently amended) A star node in a network for coupling a plurality of network nodes, comprising to

_____ a plurality of star interfaces, each star interface of the plurality of star interfaces being which are assigned to at least one network node of the plurality of network nodes,

_____ wherein

_____ each star interface is configured to:

_____ detect and which, in dependence on a pilot signal generated by a network node that is assigned to the star interface, and

_____ autonomously control each of the other star interfaces to enable transmission of a message associated with the pilot signal to each of the other network nodes in the network one of the plurality of network nodes, the network nodes remote from the star interfaces, are each provided for transferring a message from the assigned network node to the other star interfaces, or from another interface to at least one of the assigned network nodes.

12. (New) The star node of claim 11, wherein

each star interface is selectively operable in one of a receive mode and a transmit mode, and

each star interface includes

a pilot detector that is configured to detect the pilot signal and selectively set its interface to receive mode, and each of the other star interfaces to transmit mode,

wherein

in the receive mode, the star interface is configured to receive messages from its assigned one or more network nodes, and

in the transmit mode, the star interface is configured to transmit messages to its assigned one or more network nodes.

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13. (New) The star node of claim 11, wherein

each star interface includes:

- a first amplifier having a first input and a first output,
- a second amplifier having a second input and a second output,
- a pilot detector having a pilot input and a pilot output,

wherein

the first input, the pilot input, and the second output are commonly and directly coupled to the assigned at least one network node,

the first output and the second input are commonly and directly coupled to the first output and second input of each other star interface, and

the pilot output is operably coupled to the pilot input of each other star interface.

14. (New) The network node of claim 10, wherein

the multiplexer includes one of:

- a time-division multiplexer,
- a frequency-division multiplexer, and
- a phase-division multiplexer.

15. (New) The network of claim 2, wherein

the pilot signal includes one of:

- a signal that is time-division multiplexed with the message,
- a signal that is frequency-division multiplexed with the message, and
- a signal that is phase-division multiplexed with the message.

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16. (New) The network of claim 1, wherein

- each star interface is selectively operable in one of a receive mode and a transmit mode, and
- each star interface includes
 - a pilot detector that is configured to detect the pilot signal from the assigned network node and selectively set its interface to receive mode, and each of the other star interfaces to transmit mode,
 - wherein
 - in the receive mode, the star interface is configured to receive messages from its assigned at least one network node, and
 - in the transmit mode, the star interface is configured to transmit messages to its assigned at least one network node.

17. (New) The network of claim 16, wherein

- the pilot signal includes one of:
 - a signal that is time-division multiplexed with the message,
 - a signal that is frequency-division multiplexed with the message, and
 - a signal that is phase-division multiplexed with the message.

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18. (New) The network of claim 1, wherein

each star interface includes:

- a first amplifier having a first input and a first output,
- a second amplifier having a second input and a second output,
- a pilot detector having a pilot input and a pilot output,

wherein

the first input, the pilot input, and the second output are commonly and directly coupled to the assigned at least one network node,

the first output and the second input are commonly and directly coupled to the first output and second input of each other star interface, and

the pilot output is operably coupled to the pilot input of each other star interface.

19. (New) The network of claim 19, wherein

the pilot output of all of the star interfaces are commonly and directly coupled to the pilot input of all of the star interfaces.

20. (New) The network of claim 18, wherein

at least one of the first and second amplifiers is a switchable amplifier having an enable input, and

the pilot output of each star interface is operably coupled to the enable input of the at least one switchable amplifier of each other star interface.